



MICROTEK

In - C i r c u i t E m u l a t o r s

for Intel 80C186 Processors

Finally, a high performance 80C186 emulator at an affordable price

Up to now, most low-cost emulators for the Intel 186 processor family have limited your choices. In order to minimize costs, vendors typically provide a basic and minimal feature set to appeal to the widest market. What you got was usually a pocket-sized package with capabilities to match.

Now Microtek has broken the one-size-fits-all mold with a powerful tool that gives you the freedom to choose. You can select the best level of features and power to fit your needs and budget. Even the base MP-186 emulator has 32K frames trace, 8 complex events, triggering, and 1 MB overlay memory standard. Your ability to upgrade is protected. Microtek delivers all this in a package based on the Microsoft Windows® operating system for unsurpassed productivity and ease of use.

Flexible and cost effective
for your unique requirements

The new MP-186 in-circuit emulator gives you two levels of powerful trace capabilities to choose from. The standard 32K trace buffer can store nearly 2-8 times more bus cycle information than competing products. This saves you time when tracking down elusive bugs. For even more power in debugging data intensive applications, you can choose the 128K trace option. With the MP-186 emulator, you can economically upgrade from 32K trace to 128K trace at a future time.

You don't have to buy a completely new emulator to change processors in the 186 family either. You can upgrade from an EA/XL processor to EB (or EC) with a low-cost probe that will protect your investment. This makes the MP-186 emulator ideal for teams with multiple 186 designs.

Best of all, with the new MP-186 in-circuit emulator, you get a tool that utilizes the same advanced technology developed for our emulators supporting Intel 32-bit microprocessors. You get the same quality, performance, and support that has made Microtek the leader in emulation tools for Intel microprocessors.

Check out these powerful features:

- Extra-deep, 32K frames x 170-bit width, trace buffer
- Easy, low-cost upgrades for 128K trace and various processors
- 8 complex event triggers with 4 sequential levels
- Two 32-bit event counters available at all levels
- Powerful Windows® source-level debugger runs on Windows 3.1, Windows 95 and Windows NT
- Flexible probe interface cable for hard-to-reach target processors
- Software Performance Analysis and Code Coverage is standard
- 1 MB Overlay Memory is standard
- 8 External trace inputs are standard



Now, a 100% Windows® interface for incomparable ease of use

The MP-186 Source-Level Debug (SLD™) interface provides you with high productivity and ease of use. It lets you easily view and edit variables, registers, and memory. You can set breakpoints and execute code quickly and intuitively. A command line interface enables you to write script files to automatically initialize and run the emulator or use text commands to run the emulator.

SLD is a true Windows® program – not a character based DOS program. You can have any combination of windows open to maximize your productivity. The stack window displays nested function calls and simplifies monitoring stack usage while debugging. The powerful peripheral window provides guidance and extensive help in setting up the processor peripheral registers.

Frequently used commands have quick action buttons that save you from time-wasting menu clicking and control key-strokes. The extensive online help provides quick, context sensitive directions making the emulator easy to learn and increasing your productivity on the job.

Are you getting the most from your trace and breakpoint system?

Like Microtek's other industry-leading, 32-bit emulators, the MP-186 emulator has a powerful, yet easy-to-configure event triggering system. You can set up to 8 independent events with 4 sequential levels in each event. An event can be any combination of address, data, external input signals, and status lines. A match occurs when the processor bus cycle matches the specified combination.

Matching on address, data, and address ranges are supported, including pattern masking and inversion. Trigger settings, sequence level settings, or bus events can be set or modified without stopping emulation. The trigger forms help you easily

determine when to start and stop trace

collection, or trace only specific events (qualified trace). You can view the trace buffer without halting emulation.

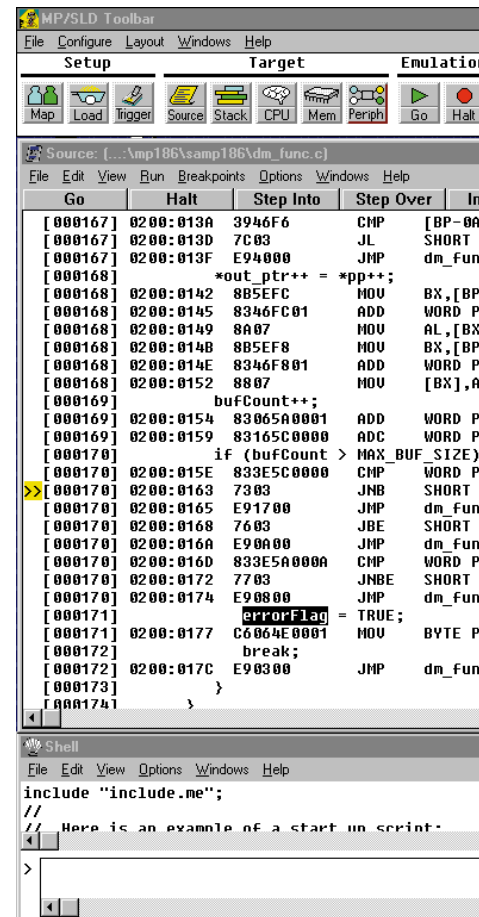
MP-186 comes with a 32K frames trace buffer standard. A 128K option is also available. Many data intensive applications, such as telecommunications, can benefit from the availability of a deep trace buffer. Trace can be viewed as disassembled instructions with memory accesses or bus cycles. The linked cursor feature automatically references the trace frame to the source line in the source window.

Two 32-bit timer/counters are available in the trigger system along with the ability to trigger and trace on 8 external signals. An external trigger input and output are also available so you can synchronize with other test equipment.

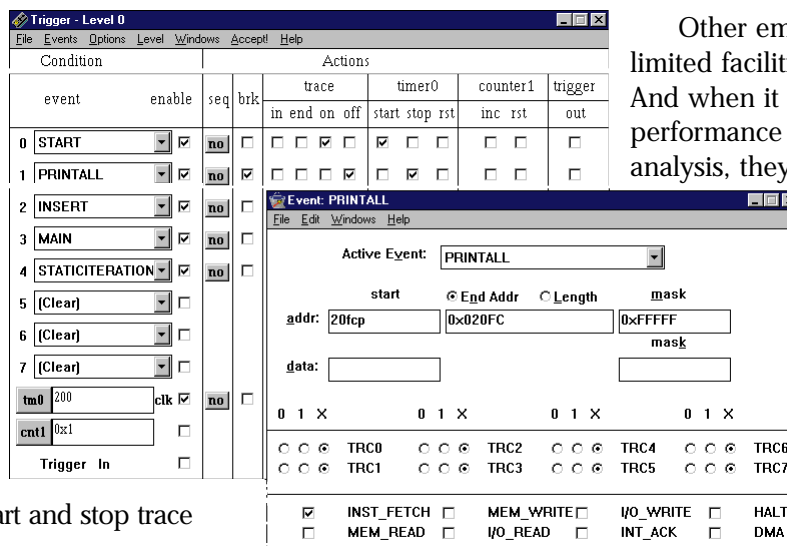
Now you can test and verify software performance and coverage – at no extra cost

Other emulators may give you limited facilities for timing analysis. And when it comes to more complex performance or code coverage analysis, they require options costing

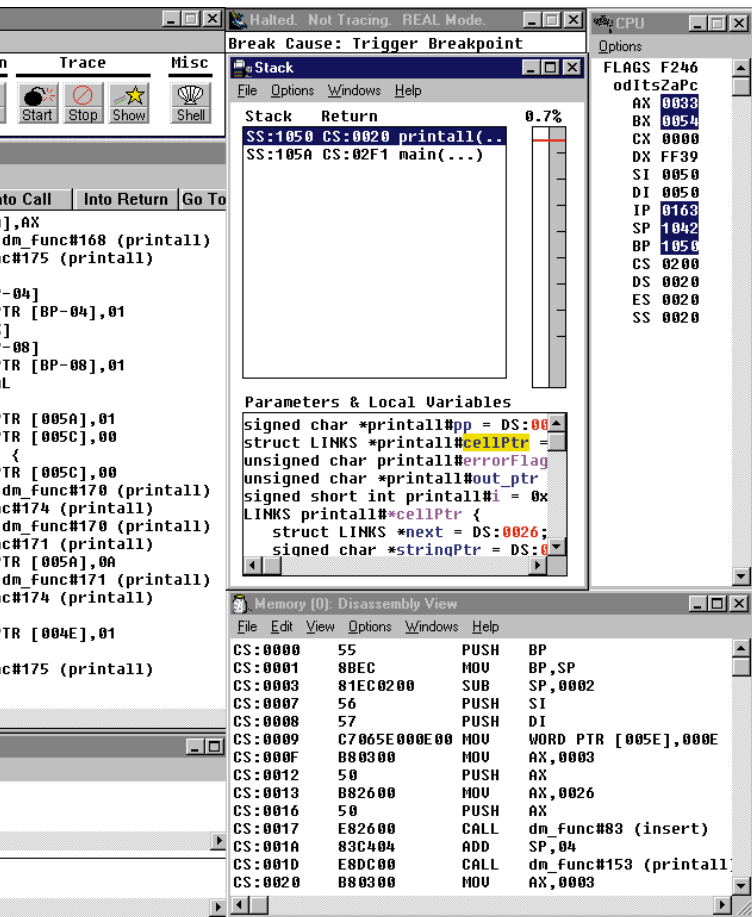
thousands more. Microtek gives you these tools at no extra cost. The built-in Module and Timing Analysis modes are used to measure timing and count history. For example, you can count the number of



Increase productivity with the industry-standard Windows® interface.



Easy-to-use event and trigger forms.



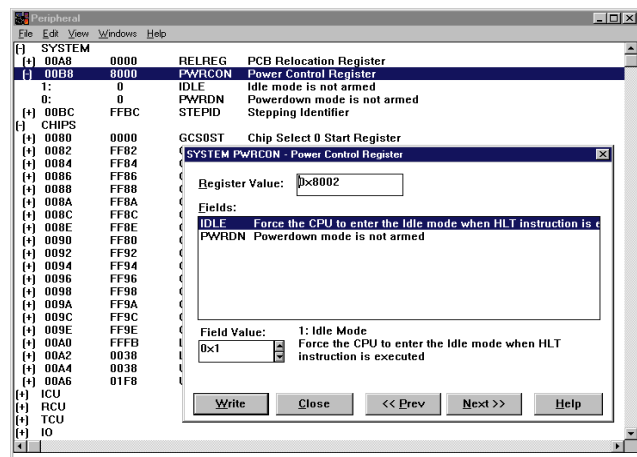
calls made to program functions in specified modules. A bar graph shows the relative count of calls for each function compared to the overall module. Use Code Coverage to measure the percentage of execution of selected modules and functions. Executed lines of code are highlighted in the source window. The MP-186 emulator requires no code changes or instrumentation to collect and analyze coverage and timing data.



Fine tune your code with built-in Performance Analysis and Code Coverage.

Start your code development
and debug before target hardware
is ready

The MP-186 emulator includes 1 MB standard overlay memory. You can map memory with 2K block resolution to execute from target or overlay with attributes of read/write access, break on write access, or break on any access. Overlay memory saves you the trouble of frequently programming new PROMs or lets you work around hardware memory problems. In addition, the emulator includes a null target board that lets you get started immediately on code development, before your target hardware is available.



Peripheral controls made simple with on-line guidance.

Imagine how much faster you'll be able to debug your embedded 186 system

Microtek has 14 years of experience and thousands of emulators in the field worldwide. Microtek has a complete range of emulators for 16 and 32-bit Intel microprocessors including the i386™, i486™, and Pentium® processors. With Microtek, you will enjoy the personal service and support that will save you time and reduce your time to market. Call Microtek today or visit our Web site (see details on the back page of this brochure) to arrange a personal demonstration of the MP-186 emulator.

System Features:

- Supports Intel 80C186/188 processors including the XL/EA, EB, EC, and AMD functional equivalents
- Emulation speeds to 25MHz with zero wait states
- Supports processors at 3/5 volts
- 32K deep trace x 170-bit width trace buffer
- Upgrades available for 128K trace and various processors
- Specify up to 8 complex bus events with 4 sequential levels per event
- Utilize two 32-bit event timers/counters available at all trigger levels
- Powerful Windows® source level debugger runs on Windows 3.1, Windows 95 and Windows NT
- Flexible probe interface cable for hard to reach target processors
- Software Performance Analysis and Code Coverage at no extra cost
- 1 MB Overlay Memory Standard
- 8 External trace inputs plus one external trigger input and trigger output
- 40-bit timestamp with 50 ns granularity
- Pre, center and post trigger trace collection
- Fully qualified trace on address, address range, data, processor status and external trace inputs with inversion
- Set triggers and view trace without stopping emulation (Trigger/trace on the fly)
- Display trace in bus cycles or disassembled instructions
- 256 software breakpoints, 2 hardware breakpoints
- Single step at source or assembly level
- Easily view and modify CPU registers, peripheral registers, variables and memory
- Powerful call stack display
- Supports OMF86 file formats including Microsoft C, Metaware High C, Borland C, Intel C-86 and PL/M-86
- Includes null target board for self testing and development without a target system
- RS-232 serial communications, compatible with any IBM compatible, Windows® PC

PC Host Requirements

- Intel486™ or above (Pentium® processor recommended)
- 8 MB of RAM, 16 MB recommended for Windows® 95
- 5 MB or more of available hard disk space
- VGA or Super VGA graphics adapter and color monitor
- DOS 3.3 or above
- Microsoft Windows® 95, Windows 3.1, Windows NT
- Serial port and Mouse

Environmental and Electrical

Input voltage	100 - 240 VAC
Power Consumption	50 W. Max.
Length	25.2 cm. (9.92 in.)
Width	16.7 cm. (6.57 in.)
Height	4.7 cm. (1.85 in.)
Shipping Weight	5.5 kg. (12 lb.)
Operating Temp.	0 - 59°C (32 - 122°F)
Storage Temp.	-10 - 65°C (14 - 149°F)
Humidity	20 - 80%

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PRODUCT CODE

DESCRIPTION

MP-186EA-PLCC-PGA-T32

MP-186 80C186XL/EA Main Chassis with PLCC/PGA probe, 1 MB overlay memory, 32K trace

MP-186EA-QFP80-T32

MP-186 80C186XL/EA Main Chassis with QFP probe, 1 MB overlay memory, 32K trace

MP-186EB-PLCC84-T32

MP-186 80C186EB Main Chassis with PLCC probe head, 1 MB overlay memory, 32K trace

MP-186EB-QFP80-T32

MP-186 80C186EB Main Chassis with QFP probe head, 1 MB overlay memory, 32K trace

MP-186EC-PQFP100-T32

MP-186 80C186EC Main Chassis with PQFP probe head, 1 MB overlay memory, 32K trace

MP-T128

128K frame trace option with system purchase

MCK-186EA-PLCC-PGA

Optional 80C186XL/EA with PLCC/PGA probe

MCK-186EA-QFP80

Optional 80C186XL/EA with QFP probe

MCK-186EB-PLCC84

Optional 80C186EB with PLCC probe

MCK-186EB-QFP80

Optional 80C186EB with QFP80 probe

MCK-186EC-PQFP100

Optional 80C186EC with PQFP100 probe

Service Support Options



Microtek makes it easy to keep your emulator up to date and in good working condition, which is critical to our mutual success. Join our Gold Support program and enjoy all the benefits of a complete warranty.

For more information about Service Support Options to match your project requirements, contact Lisa Rice at 1 (800) 886-7333 x 401 or (503) 645-7333 x 401.

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